Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A rate of change of current sensor comprising a coil for coupling the flux from a conductor in which rate of change of current is to be sensed, the coil comprising a plurality of turns, each turn having a first part and a second part, the first part being a track on one layer of a printed circuit board and the second part being a track on another layer of the printed circuit board and connected to the first part by a via in the printed circuit board , each turn having an axis being displaced from the axis of its neighboring turn in a direction parallel to the direction of current flow through the conductor such that the axes are displaced along a line which is parallel to the direction of current flow through the conductor.

2. (Previously Presented) A sensor according to claim 1 wherein the axes are orthogonal to the direction of the conductor, wherein the first parts define a first plane parallel to the direction of the conductor and the second parts define a second plane parallel to the direction of the conductor, the first plane parallel to the second plane and wherein the line along which the axes are displaced is parallel to the first and second planes.

3. (original) A sensor according to claim 1 wherein the turns are rectangular, circular or hexagonal in shape.

4. (original) A sensor according to claim 1 further comprising a feature provided on the printed circuit board to hold the conductor in place relative to the coil.

5. (original) A sensor according to claim 1 wherein the conductor is formed on or comprises a layer of the printed circuit board.

6. (original) A sensor according to claim 2 wherein the conductor is a split conductor having at least two limbs each of which runs close to vias of either side of the coil.

7. (original) A sensor according to claim 1 wherein two coils are provided on the printed circuit board, the conductor extending between the two coils.

8. (original) A sensor according to claim 1 wherein each turn of the coil is of the same dimension as the other turns.

9. (Currently Amended) A switched reluctance drive including a motor having a rotor defining a plurality of rotor poles, a stator defining a plurality of stator poles, and at least one conductor comprising a phase winding for exciting two or more of the poles, and a sensor connected to sense the rate of change of current in at least one phase winding, the sensor comprising a coil for coupling the flux from the conductor, the coil comprising a plurality of turns, each turn having a first part and a second part, the first part being a track on one layer of a printed circuit board and the second part being a track on another layer of the printed circuit board and connected to the first part by a via in the printed circuit board, each turn having an axis which is orthogonal to the direction of current flow through the conductor, each axis being displaced from the axis of its neighboring turn in a direction parallel to the direction of current flow through the conductor such that the axes define a line which is parallel to the direction of current flow through the conductor.

10. (original) A switched reluctance drive as claimed in claim 9 wherein the output of the sensor is fed to a circuit which detects the point at which the rate of change of current crosses zero.

11. (original) A switched reluctance drive as claimed in claim 10 wherein the output of the sensor is used to provide rotor position information.

12. (Currently Amended) A switched reluctance drive including a motor having a rotor defining a plurality of rotor poles, a stator defining a plurality of stator poles, and at least one conductor comprising a phase winding for exciting two or more of the poles, and means for sensing the rate of change of current in at least one phase winding, the means for sensing comprising means for coupling the flux from the conductor, the means for coupling comprising a plurality of turns, each turn having a first part and a second part, the first part being a track on one layer of a

printed circuit board and the second part being a track on another layer of the printed circuit board and connected to the first part by a via in the printed circuit board, each turn having an axis being displaced from the axis of its neighboring turn in a direction parallel to the direction of current flow through the conductor such that the axes define a line which is parallel to the direction of current flow through the conductor.

13. (original) The switched reluctance drive as claimed in claim 12 wherein the means for coupling comprises a coil.

14. (original) A switched reluctance drive as claimed in claim 12 wherein the output of the means for sensing is fed to a circuit which detects the point at which the rate of change of current crosses zero.

15. (original) A switched reluctance drive as claimed in claim 14 wherein the output of the means for sensing is used to provide rotor position information.

16. (Previously Presented) A sensor according to claim 1 wherein each turn is a single wind of the coil.

17. (Previously Presented) A sensor according to claim 16 wherein the axes are orthogonal to the direction of the conductor, wherein the first parts define a first plane parallel to the direction of the conductor and the second parts define a second plane parallel to the direction of the conductor, the first plane parallel to the second plane and wherein the line along which the axes are displaced is parallel to the first and second planes.

18. (Previously Presented) A sensor according to claim 1 wherein the conductor defines an axis along which current in the conductor flows, the sensor further comprising a plurality of vias extending through the printed circuit board, said plurality of vias as viewed in cross section together forming a line of vias extending in a direction parallel to said axis.

19. (Previously Presented) A sensor according to claim 18 wherein the plurality of vias as viewed in cross section together form a pair of lines of vias, each line of vias extending in a direction parallel to said axis.

20. (Previously Presented) A sensor according to claim 1 wherein each turn forms a staggered overlap with adjacent turns of the coil.

21. (Previously Presented) A sensor according to claim 2 further comprising a plurality of said vias extending through the printed circuit board, the plurality of vias forming a line of vias extending in a direction parallel to the direction of the conductor.

22. (Previously Presented) A sensor according to claim 2 further comprising a plurality of said vias extending through the printed circuit board, the plurality of vias forming a pair of lines of vias, each line of vias extending in a direction parallel to the direction of the conductor.

23. (Previously Presented) A sensor according to claim 5 wherein the conductor is formed on or comprises a layer of the printed circuit board without passing through the printed circuit board.